

FIG. 1 (prior art)

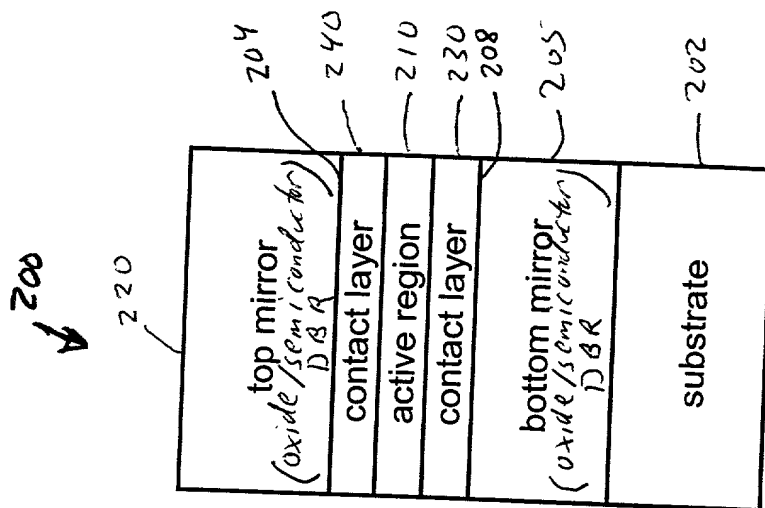


FIG. 2A

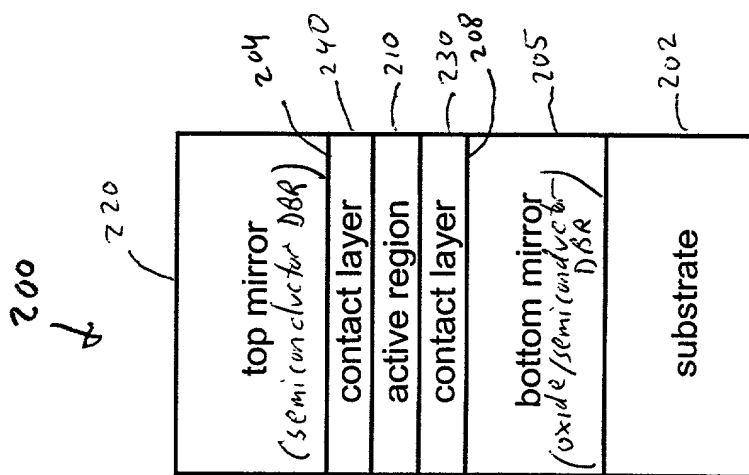


FIG. 2B

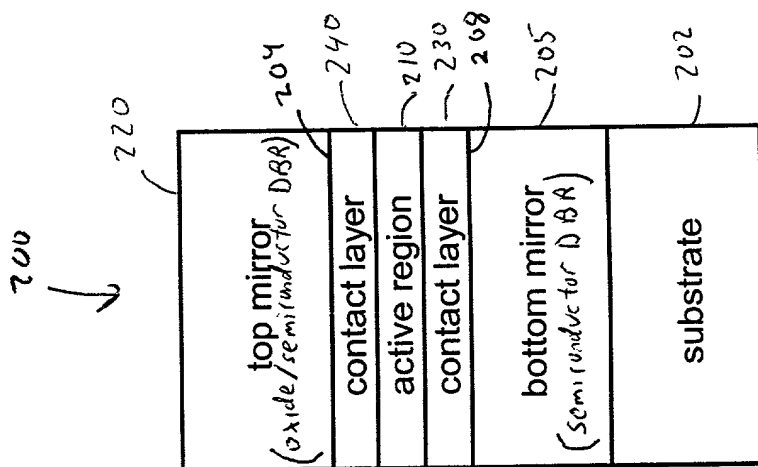


FIG. 2C

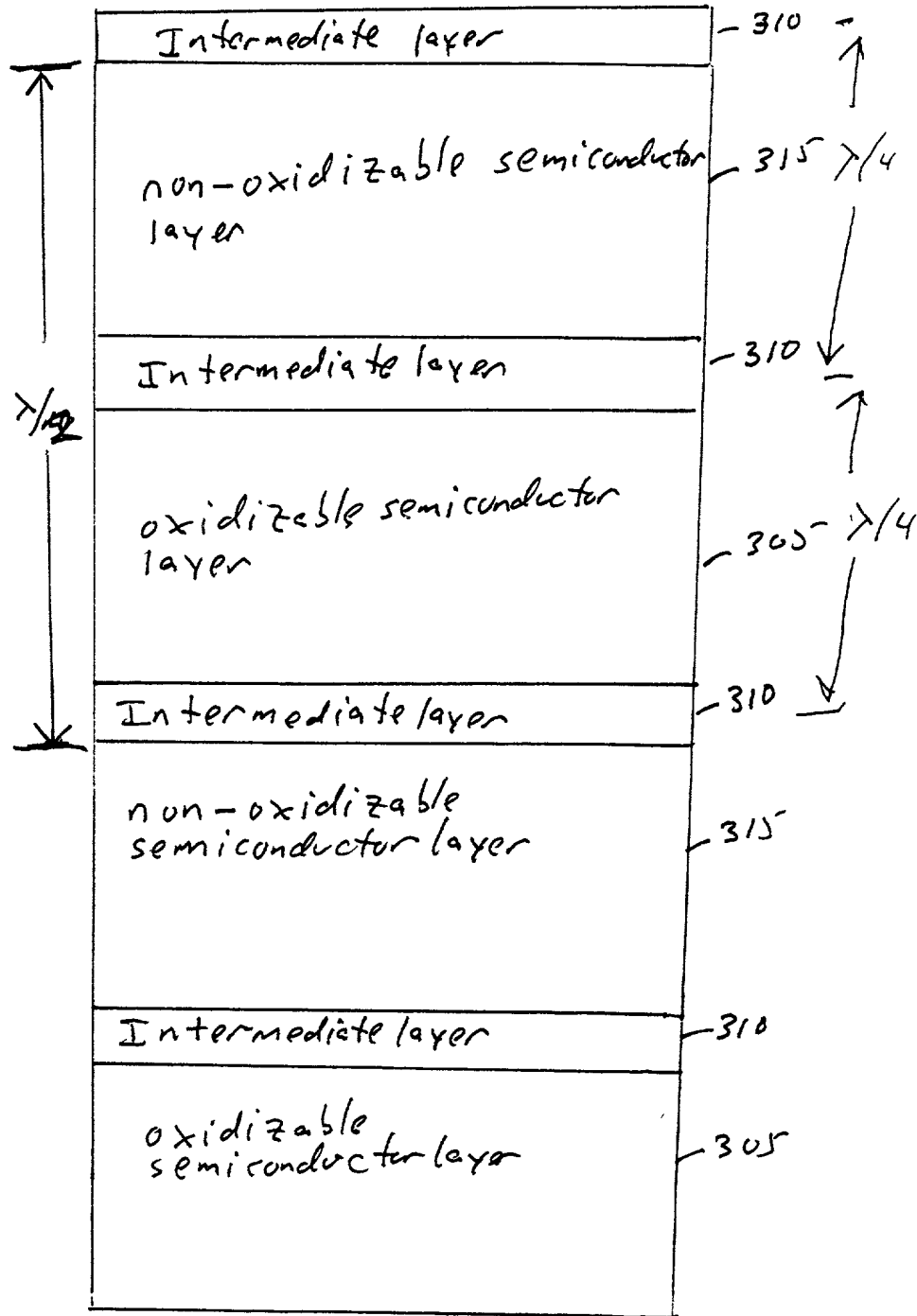


FIG. 3

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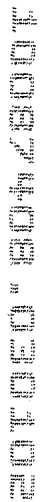
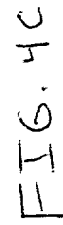


FIG. 4A



F 56.48



11. H.G. HC



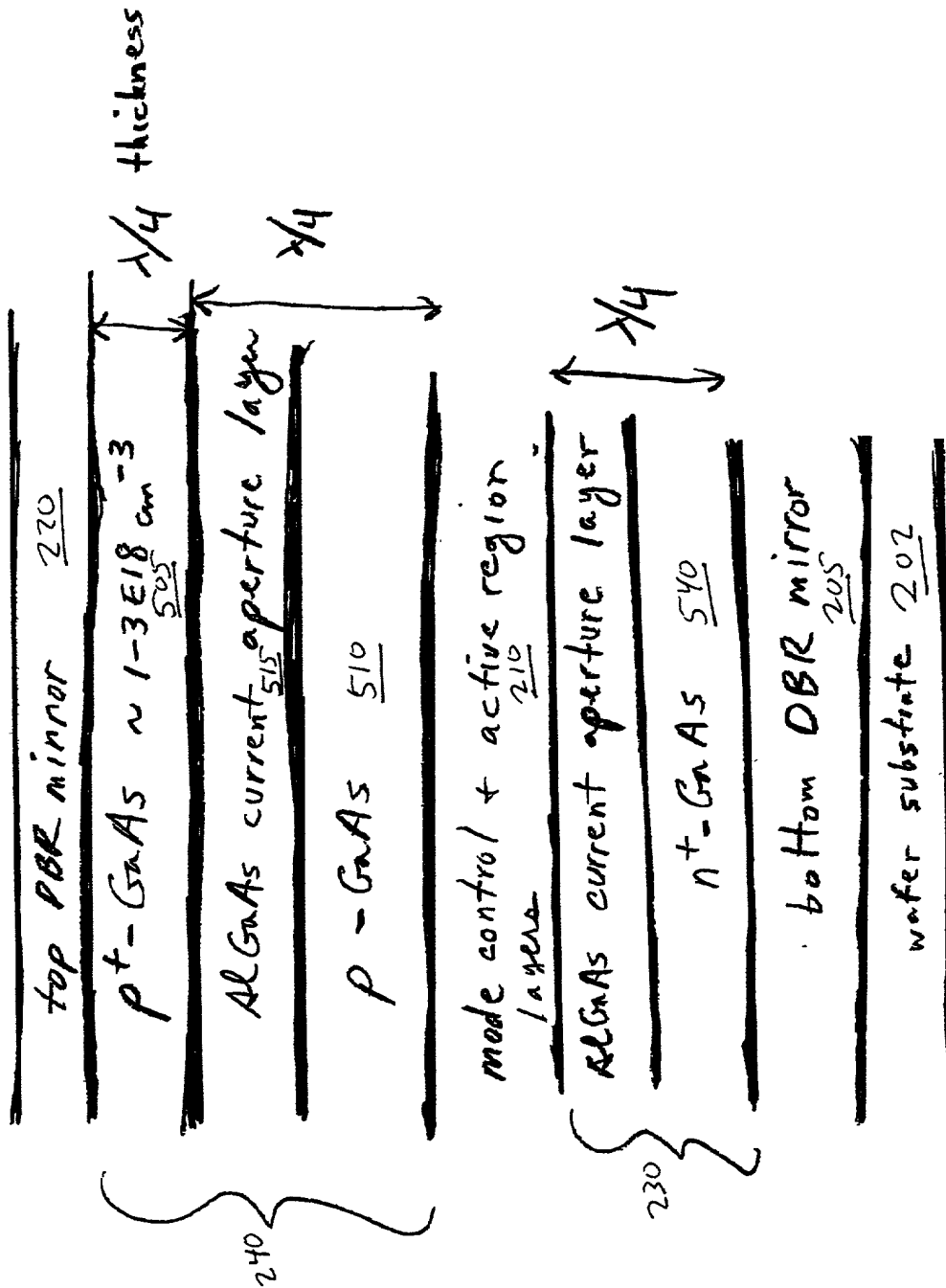


FIG. 5B

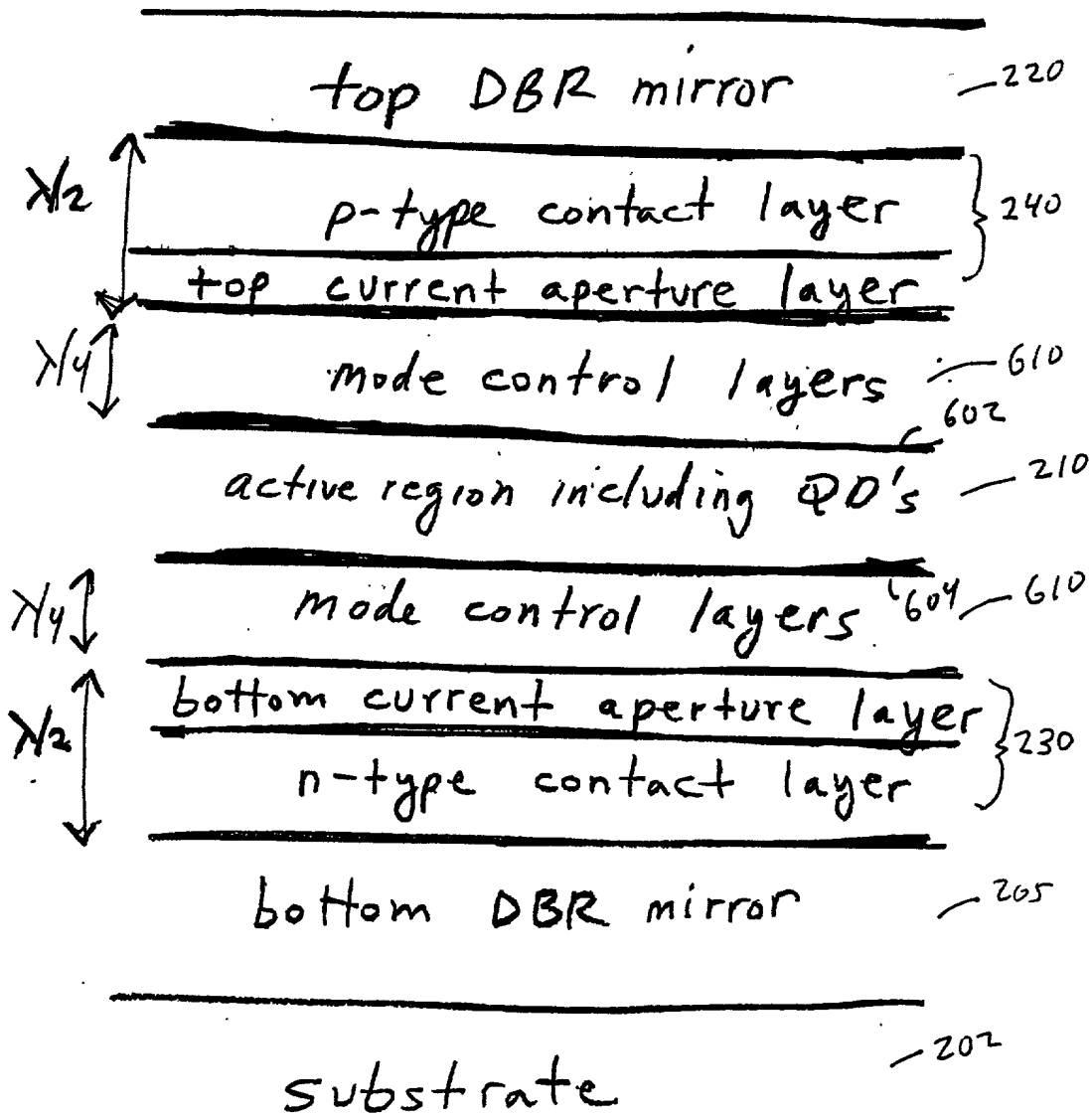


FIG. 6A

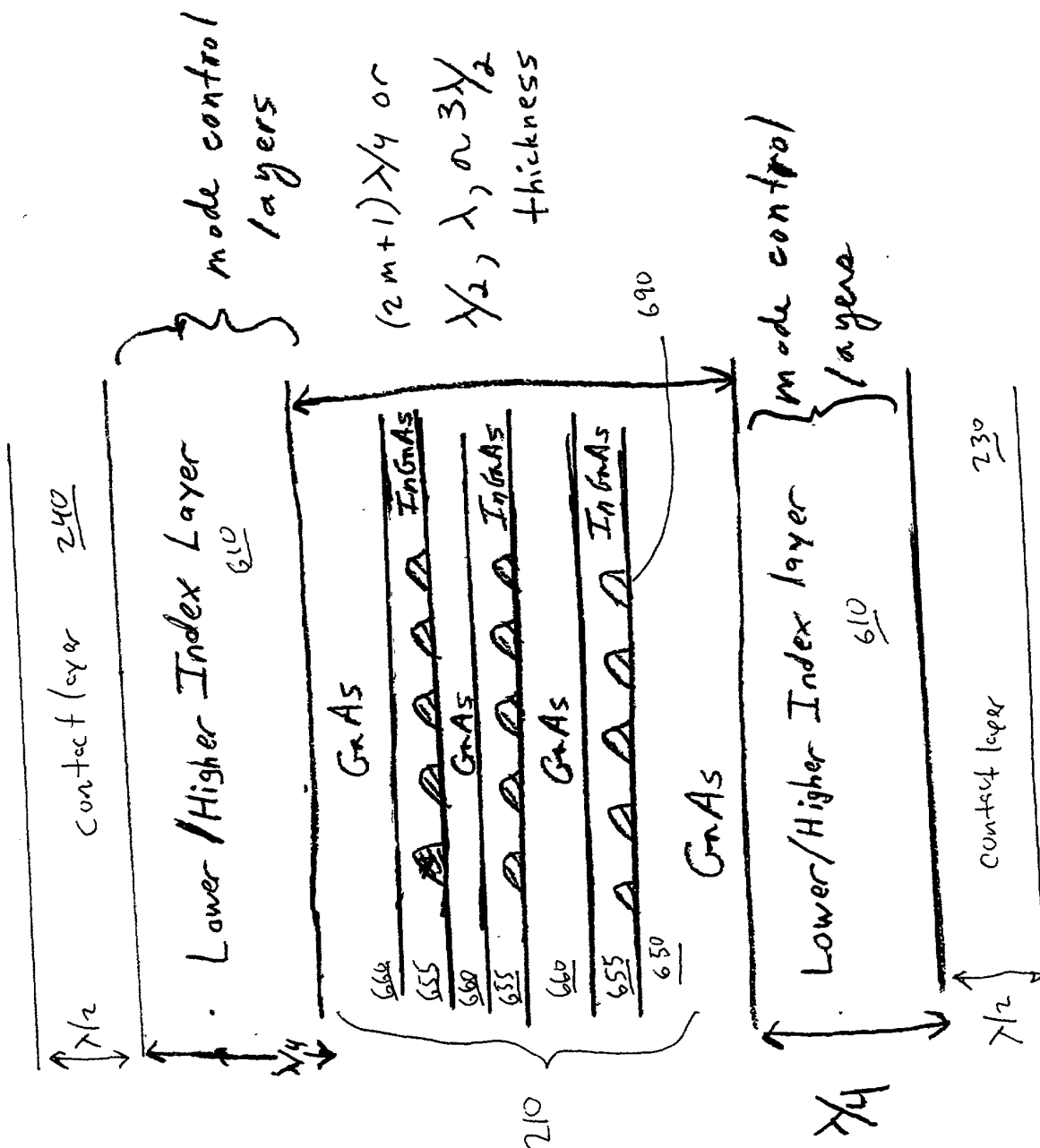


FIG. 6B

207060 "80428001"

700
↓

220	GaAs	92nm, 5x
	Al _{0.2} Ga _{0.8} As	10nm, 5x
	AlAs	213nm, 5x
	Al _{0.2} Ga _{0.8} As	10nm, 5x
	GaAs, p ³¹⁸	92nm p-contact
240	Al _{0.2} Ga _{0.8} As, p ¹⁷	107nm Mode Control
610	GaAs, p ¹⁷	71nm p-contact
	Al _{0.8} Ga _{0.2} As, p ¹⁷	50nm Current aperture
	Al _{0.2} Ga _{0.8} As	12nm grade for current aperture
	GaAs	20nm Active
	GaAs	10nm, 3x 600C Active
	GaAs	0.8nm, 3x Active
210	In _{0.5} Ga _{0.5} As	~8nm, 3x Active
	InAs	2.4ML, 3x Active
	In _{0.5} Ga _{0.5} As	1nm, 3x 510C Active
	GaAs	159nm Active
610	Al _{0.2} Ga _{0.8} As, n ¹⁷	107nm Mode Control
230	GaAs, n ²¹⁸	92nm n-contact
	Al _{0.2} Ga _{0.8} As	10nm, 8x
205	AlAs	213nm, 8x
	Al _{0.2} Ga _{0.8} As	10nm, 8x
	GaAs	92nm, 8x
	Al _{0.2} Ga _{0.8} As	10nm
	AlAs	213nm
	Al _{0.2} Ga _{0.8} As	10nm
	GaAs	200nm 600C
	GaAs N+ 2" 1-side	Tox=620C, 10min

FIG. 7

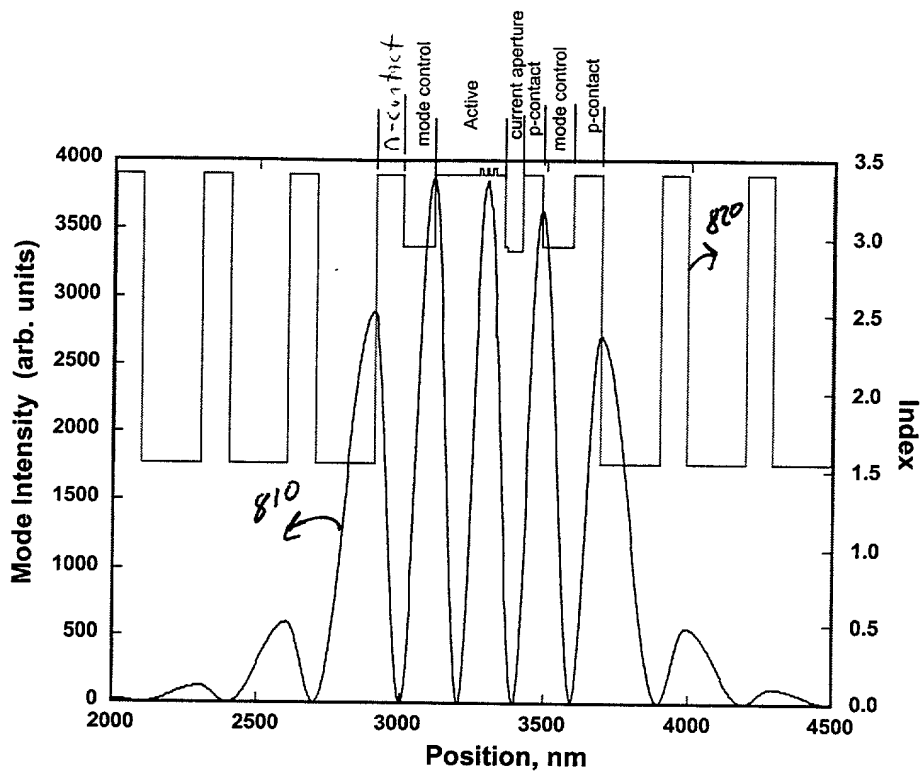


FIG. 8

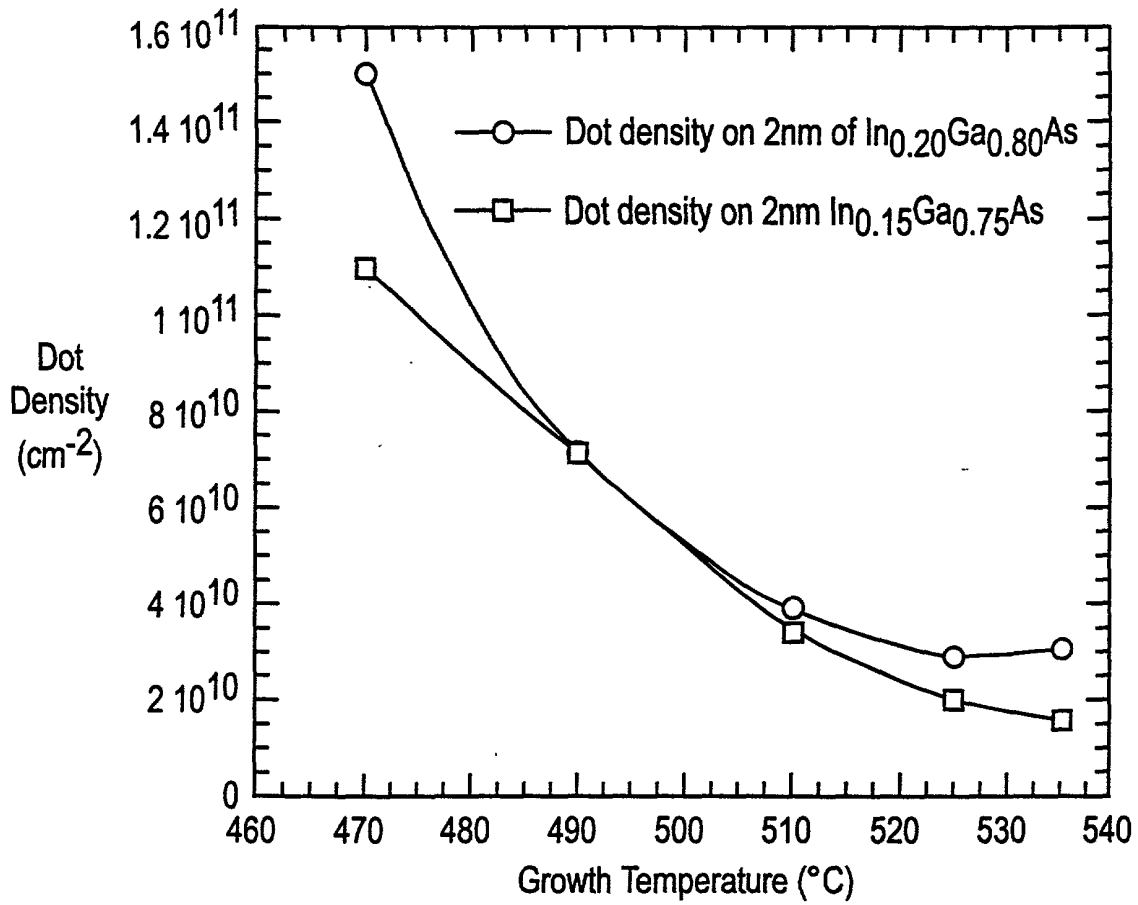


FIG. 9

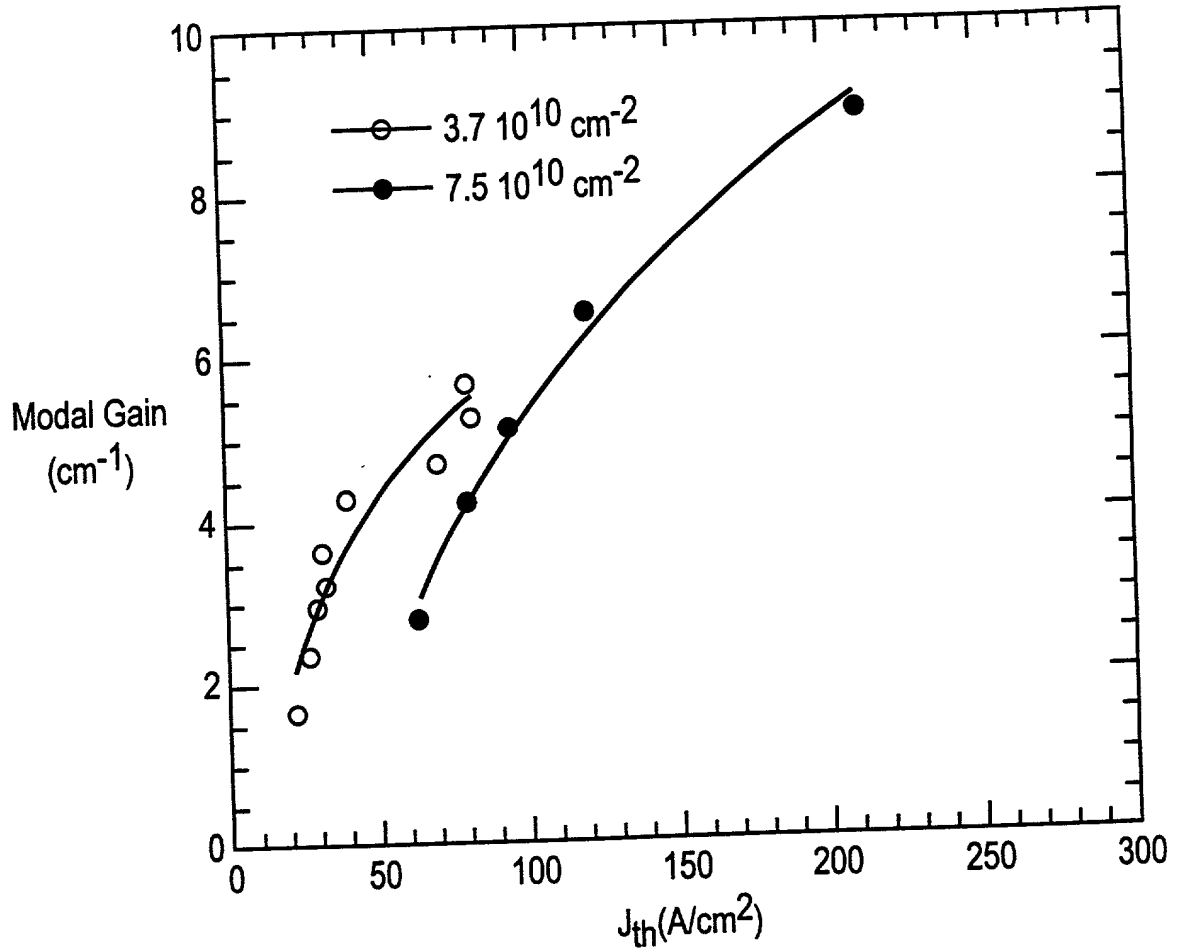


FIG. 10

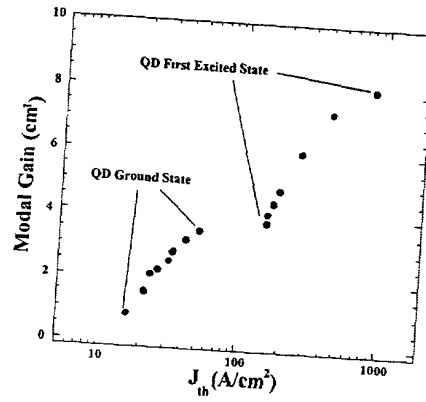


FIG. 11

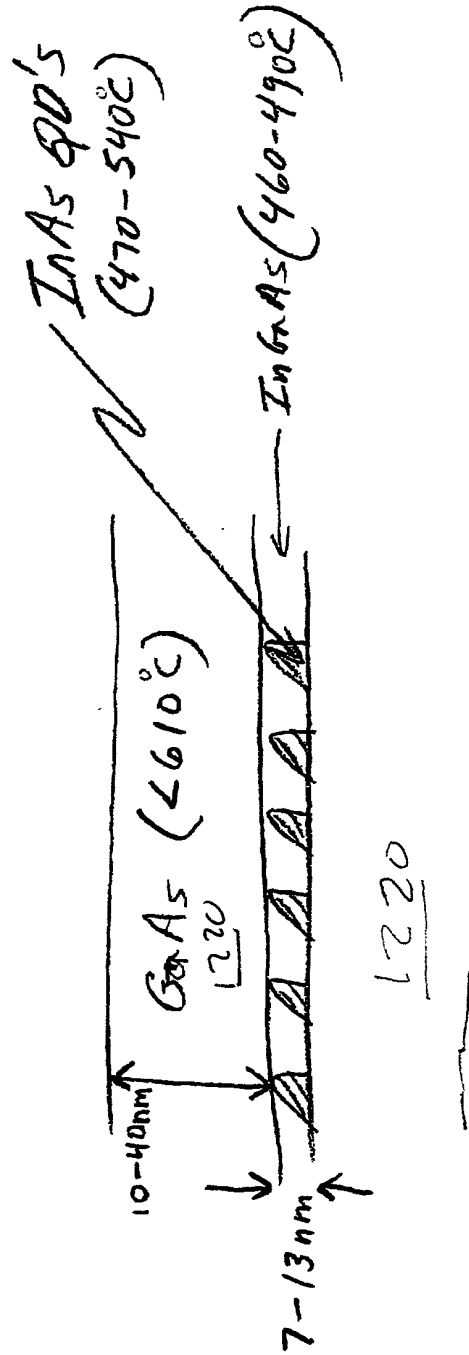


FIG. 12 A

1215 ~ InGaAs 6-11 nm (460-490°C)
1210 ~ InAs 1-3 monolayers (470-540°C)
1205 ~ InGaAs 0.5-2 nm (~490°C)
1200 ~ GaAs — 1220

FIG. 12B

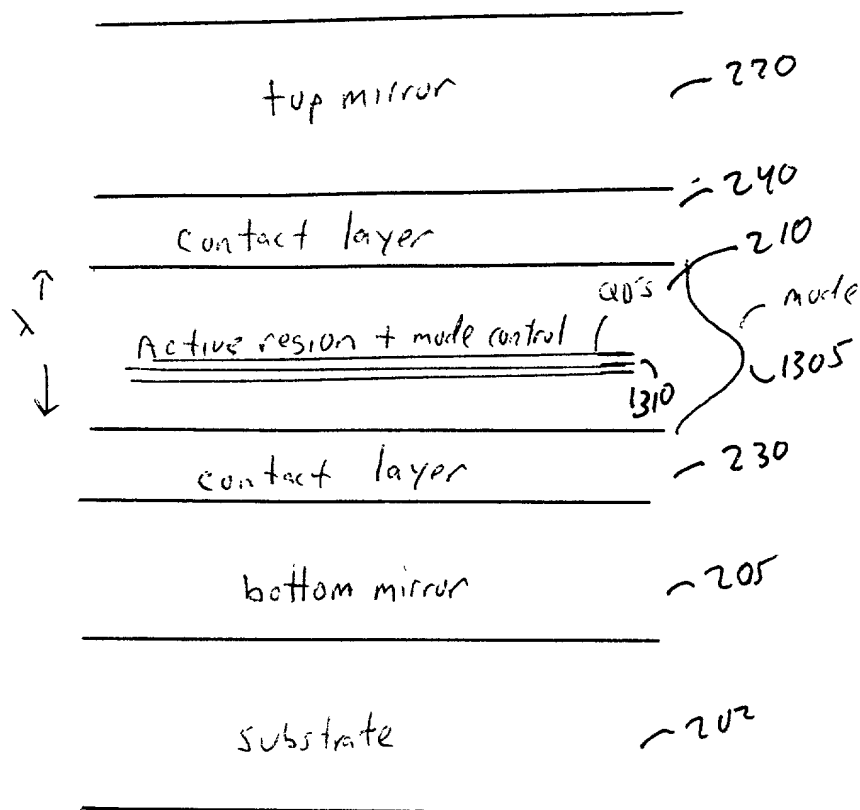


FIG. 13

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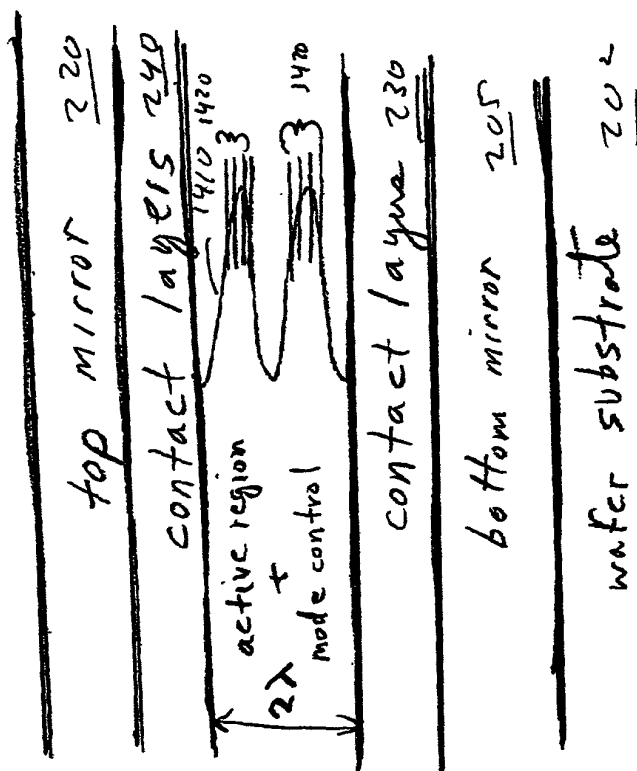


FIG. 14

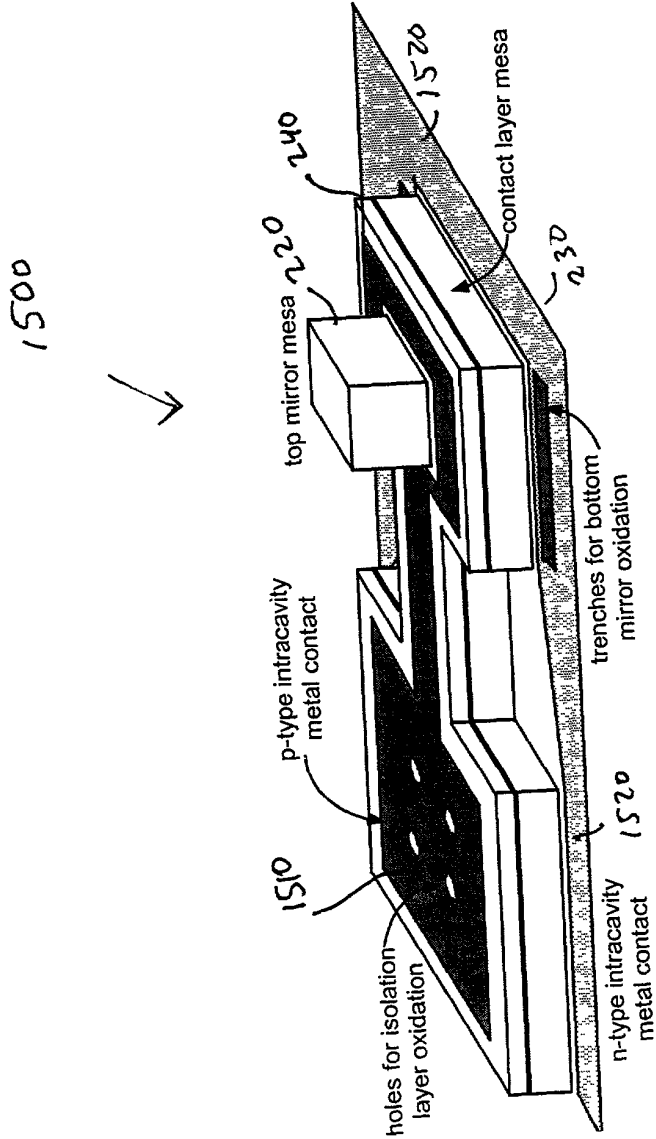


FIG. 15A

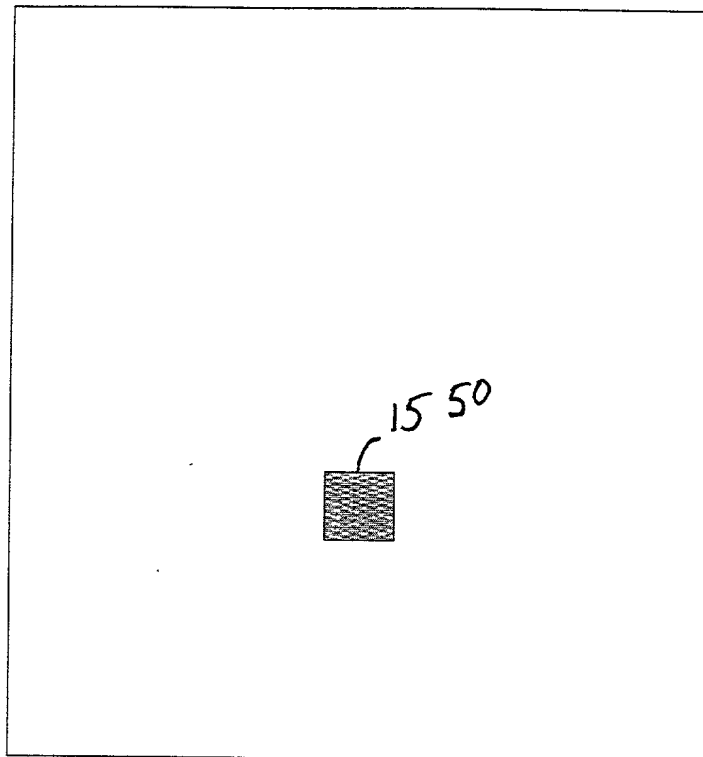


FIG. 15B

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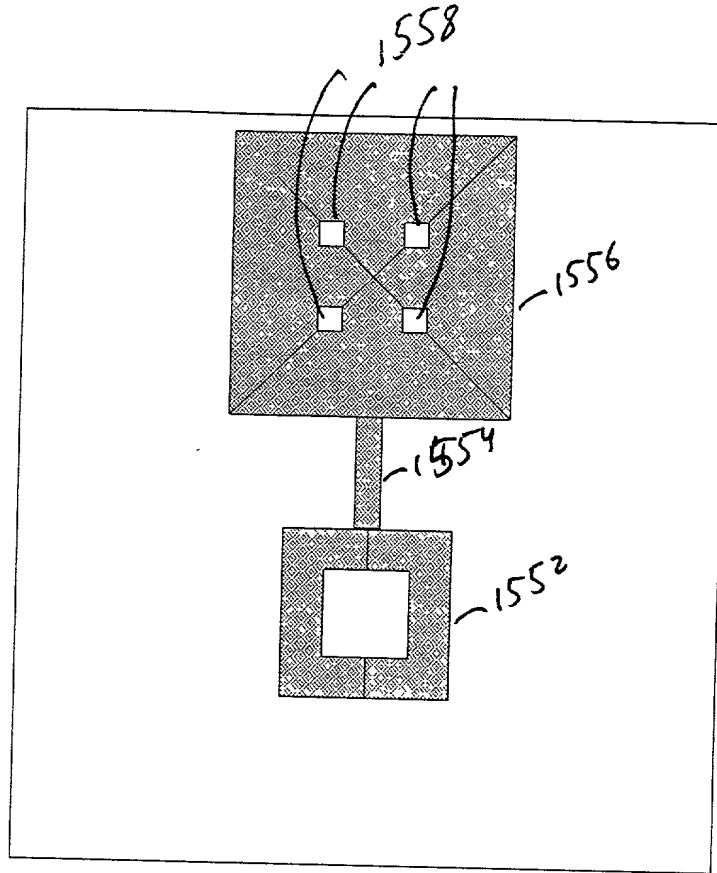


FIG. 15C

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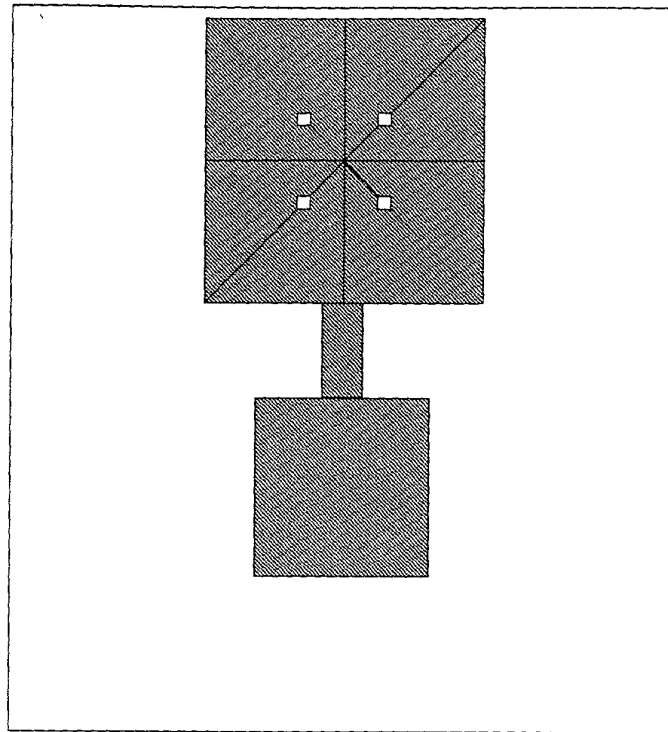


FIG. 15D

20190510-030410

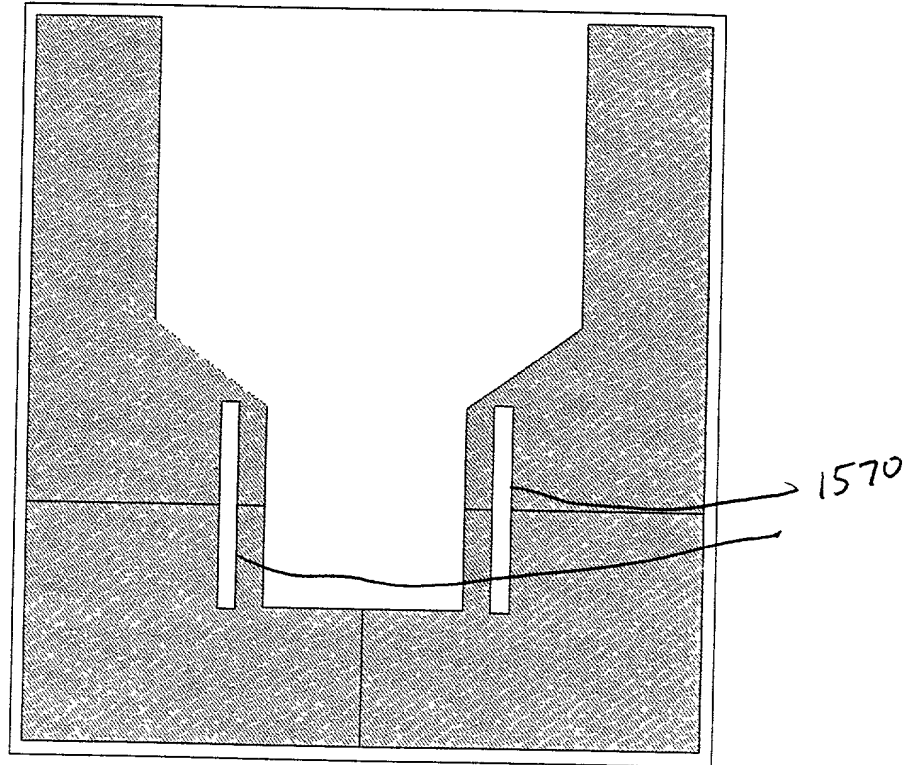


FIG. 15E

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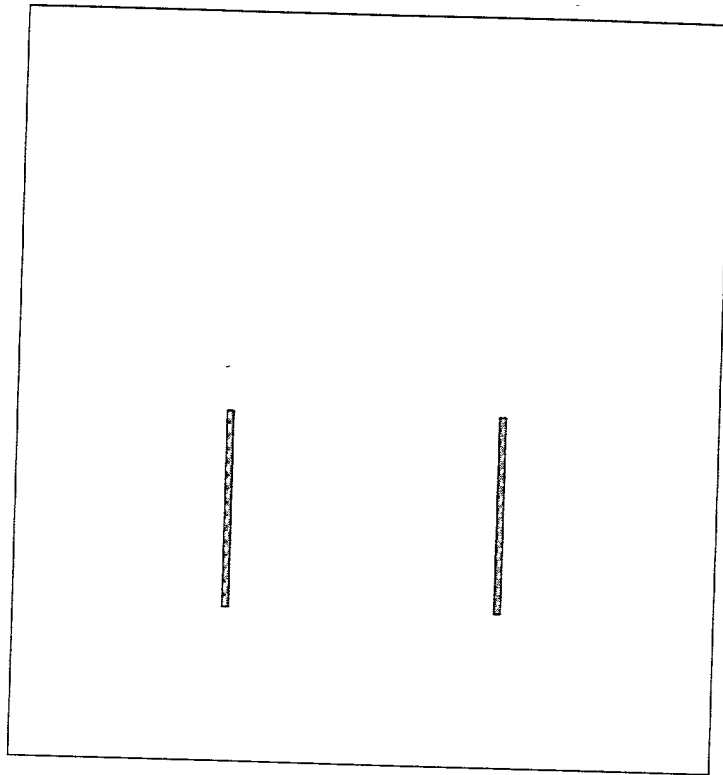


FIG. 15F

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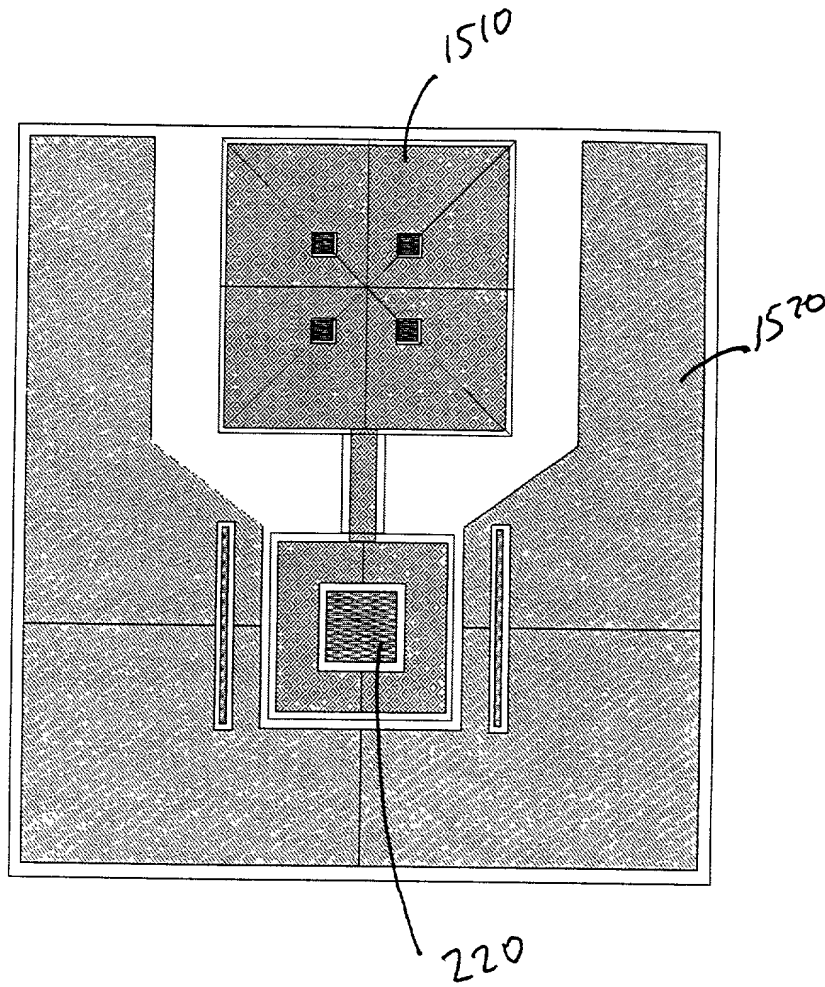


FIG. 15G

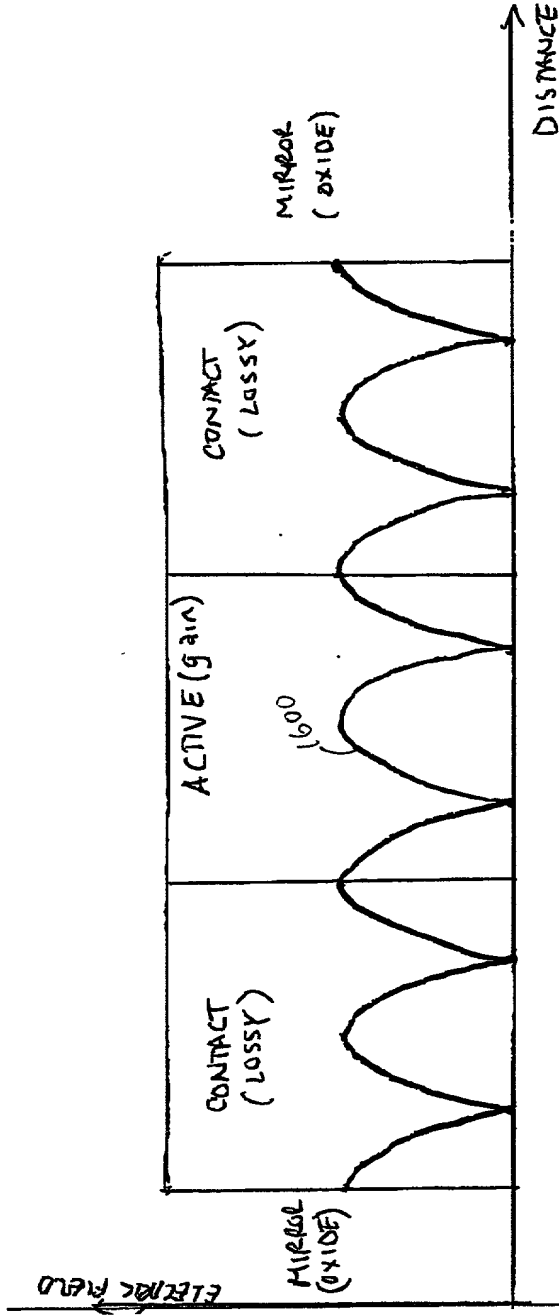


FIG. 16A

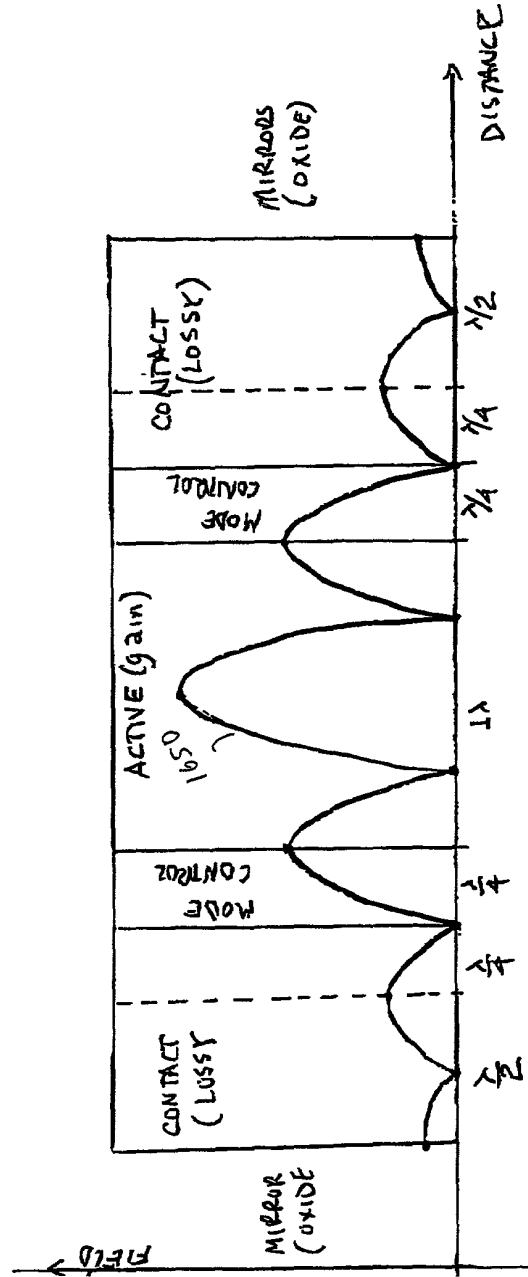


FIG. 16B

10067408-030107